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10/538,173	08/07/2006	Eran Finc	30063	1754
7590		08/24/2007		
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			EXAMINER	
			ROJAS, OMAR R	
			ART UNIT	PAPER NUMBER
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			08/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/538,173

Applicant(s)

FINE, ERAN

Examiner

Omar Rojas

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 90-124 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 90-124 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/09/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> |

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figures 11-13 appear to be photographs and/or photocopies of photographs and, thus, are not permitted in utility and design patent applications. *See* 37 CFR 1.84(b).

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 119 is objected to because of the following informalities: Claim 119 recites the limitation "said third layer" in line 3. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 90-107, 109-113, and 122-124 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Patent No. US 6,278,106 B1 to Muto et al. ("Muto").

In re claims 90 and 123, Muto discloses a flexible optical waveguide (Figures 4-9) capable of propagating and emitting light comprising flexible material layers 1 and/or 2 having a surface and an end, wherein a first portion of light is emitted through at least a portion of said surface, and a second portion of the light is emitted through said end (e.g., as shown in Fig. 5). Figures 4 and 5 of Muto are reproduced below.

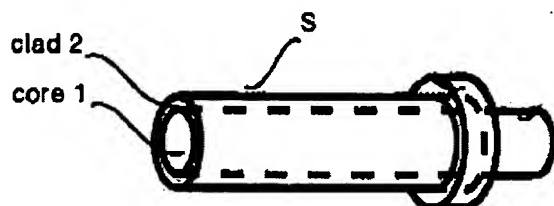


Fig. 4

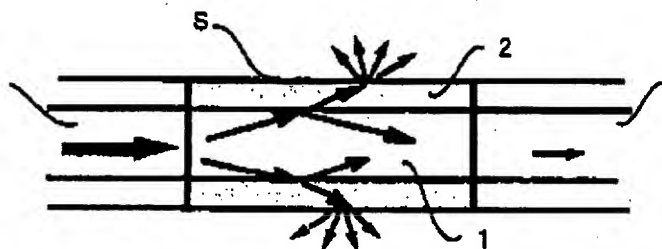


Fig. 5

In re claims 91-101, the clad and core materials disclosed by Muto at column 6, lines 10-52 inherently possess all the properties specified by claims 91-100 because they include the same materials specified by the claims (i.e., catalyzed natural rubber, polypropylene, etc.).

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In re claims 102, 103, 106, and 107, the specified limitations are also clearly mentioned in columns 6-7 of Muto.

In re claims 109-113 and 124, the waveguide cladding layers disclosed by Muto would inherently comprise some form of particle impurities capable of scattering light because it is well-known in the art that manufacturing of optical waveguides generally results in at least some waveguide impurities.

In re claim 105, the device of Muto is inherently capable of propagating light at an angle of 5 to 30 degrees because the physical structure of Muto's device is exactly the same to what is being claimed.

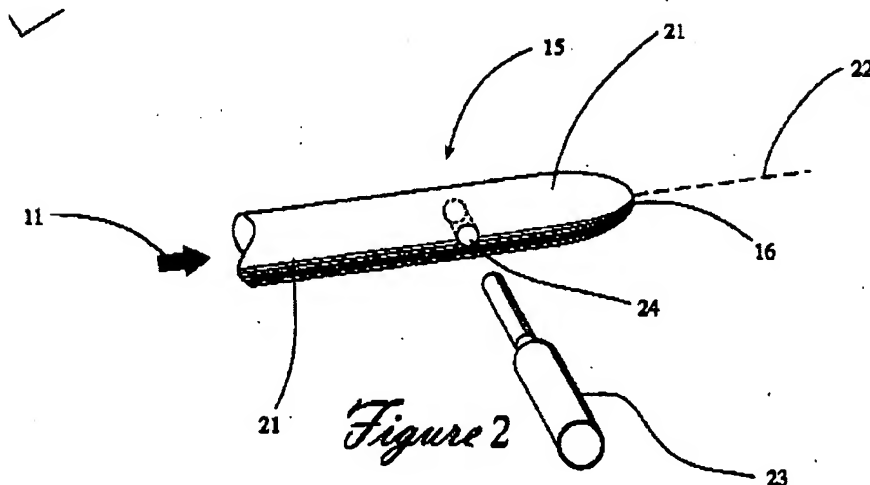
In re claim 122, Muto further discloses optical couplers 3, 4 and/or 5 as seen in Figure 9. The couplers 3, 4 and/or 5 are inherently capable of focusing light to impinge on said flexible material layers at an impinging angle satisfying a numerical aperture of said flexible layers because Muto's couplers have exactly the same physical structure as the claimed optical coupler.

6. Claims 90-105, 108-110, 112-114, 116, 117, and 121-124 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Patent No. US 6,278,106 B1 to Alarcon.

In re claims 90 and 123, Alarcon discloses a flexible optical waveguide 15 capable of propagating and emitting light comprising flexible material 21 having a surface and an end, wherein a first portion of light is emitted through at least a portion of said surface, and a second

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portion of the light is emitted through said end (e.g., as described at col. 4, lines 19-37). Figure 2 of Alarcon is reproduced below.



In re claims 91-101, the silicone rubber disclosed by Alarcon at column 4, lines 42-45 inherently possesses all the properties specified by claims 91-100 because it has the same physical structure as the claimed material.

In re claims 102-104, the voids 24 and the material 21 of Alarcon anticipate the claimed first and second layers, respectively.

In re claims 104 and 105, the device of Alarcon is inherently capable of propagating light at an angle of 5 to 30 degrees because the physical structure of Alarcon's device is exactly the same to what is being claimed.

In re claim 108, the voids 24 form a pattern on the surface of material 21 as seen in Fig. 3.

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In re claims 109-110, 114, 116, and 117, the voids **24** inherently comprise an additional component/diffractive optical element in the form of air. The air present in the voids **24** is inherently capable of performing the functions specified by claims 109-110, 114, 116, and 117 because it has the same physical structure as the claimed component and/or diffractive optical element.

In re claims 112, 113, 121, and 124, the air present in the voids **24** of Alarcon would also inherently comprise some form of particle impurities because particle impurities (i.e., pollution) are well-known properties of air.

In re claim 122, Alarcon further discloses optical coupler **12** as seen in Figure 1. The coupler **12** is inherently capable of focusing light to impinge of said flexible material layers at an impinging angle satisfying a numerical aperture of said flexible layers because Alarcon's coupler **12** has exactly the same physical structure as the claimed optical coupler.

7. Claims 90-94, 101-105, 107-110, and 112-124 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Patent No. US 6,850,665 B2 to Grubsky et al.

In re claims 90 and 123, Grubsky discloses a flexible optical waveguide **14** capable of propagating and emitting light comprising flexible material having a surface and an end, wherein a first portion of light is emitted through at least a portion of said surface, and a second portion of the light is emitted through said end. Figure 5 of Grubsky is reproduced below.

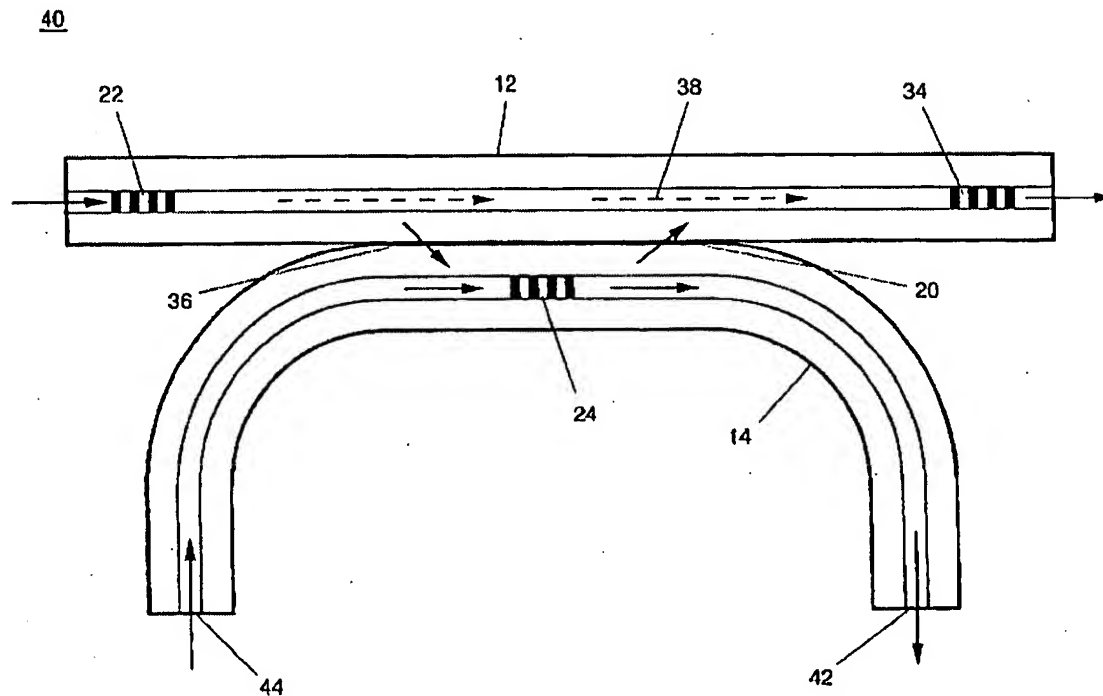


Fig. 5

In re claims 91-94 and 101, the flexible waveguide 14 of Grubsky inherently possesses all the properties specified by because it has the same physical structure as the claimed material.

In re claims 102-104, the cladding 18 and the core 24 of Grubsky anticipate the claimed first and second layers, respectively.

In re claims 104 and 105, the device of Grubsky is inherently capable of propagating light at an angle of 5 to 30 degrees because the physical structure of Grubsky's device is exactly the same to what is being claimed.

In re claim 107, Grubsky discloses a third layer 20 as claimed.

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In re claims 108-110, 112-121, and 124, Grubsky discloses a pattern/additional component/particles/impurity/diffractive optical element/ **24** as claimed. The diffractive optical element **24** is inherently capable of performing the functions specified by claims 109-110, 112, 114-121, and 124 because it has the same physical structure as the claimed device.

In re claim 122, Grubsky further discloses optical coupler **12**. The coupler **12** is inherently capable of focusing light to impinge of said flexible material layers at an impinging angle satisfying a numerical aperture of said flexible layers because Grubsky's coupler **12** has exactly the same physical structure as the claimed optical coupler.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Omar Rojas/

Patent Examiner, Art Unit 2874

or

August 20, 2007